

## **Summary of Project Descriptions for Final Applications Submitted for 2009 SRFB Grant Round**

### **A. Jimmycomelately Riparian Protection**

A .93 mile length of Jimmycomelately (JCL) Creek will be permanently protected through the purchase of a conservation easement on 64 acres from a single, private landowner. Moderate to old growth riparian forest and channel conditions on the property are excellent, and a conservation easement will ensure it stays this way. No timber harvest, road building, or other development activities will be allowed to occur within the riparian forest.

According to the Recovery Plan, the lower 1-2 miles of the watershed must be restored and protected to effect and ensure recovery of the Strait population aggregate. "Protection, restoration and maintenance of the Jimmycomelately and Salmon/Snow watersheds are of paramount importance... Protection of the freshwater reaches is the highest priority (for JCL Creek)." This is the only unprotected riparian property within the anadromous zone and is the remaining major element for the restoration/protection of the lower watershed.

The \$7 million JCL restoration project included restoration of the estuary, adjacent nearshore, and lower ½-mile of stream channel. It also involved tremendous community support, and funding support from state and federal funding agencies including SRFB, ALEA, NAWCA, NRCS and others. This project will link the currently protected stream reaches above and below the project site. Directly downstream is the JCL restoration project, and upstream is state and federal forestland.

### **B. Salmon Creek Riparian Acquisition**

Jefferson Land Trust is applying for Salmon Recovery Funding Board grant funds for the permanent protection of important riparian habitat in the Salmon Creek watershed, located at the head of Discovery Bay. The Salmon and Snow Creek Estuary is the most intact of its type on the Strait of Juan de Fuca and is the unquestioned stronghold of the ESA listed Strait of Juan De Fuca summer chum salmon. This project continues the successful protection and restoration efforts conducted by Chumsortium partners since 2001. Jefferson Land Trust will permanently protect approximately 156 acres and nearly 1 mile of riparian habitat on Salmon Creek for summer chum, other salmon species and wildlife through fee simple acquisition. The project fits well with the Hood Canal Coordinating Council Strategy for Salmon Recovery. Critical habitat acquisition is number one on their sequenced project lists for both Salmon and Snow Creek watersheds. This project aims to protect a parcel that was identified through previous protection efforts by Chumsortium partners, and is adjacent to properties protected with conservation easements acquired through a 2001 SRFB grant.

### C. Summer Chum Riparian- East Jefferson

Riparian habitats are the most fundamental building block for protecting aquatic freshwater and marine ecosystems and the species that depend on them. Virtually all watershed assessments and species recovery plans from landscape to reach to watershed scales call for improving riparian habitat quality/quantity and reducing their increasing fragmentation.

The primary objectives are:

1. Improve the quantity and quality of riparian areas
2. Move riparian areas toward a later seral stage to achieve water quality and habitat benefits for summer chum and other salmonids

The project seeks to fund one Washington State Conservation Corps (WCC) crew for one year to implement the project scope. Additional private contractors may be hired to perform some of the tasks where necessary. The tasks of the project scope are: 1) tree planting; 2) site preparation and maintenance for planting; 3) invasive, non-native vegetation inventory and control; 4) instream and estuarine restoration such as hand placement of woody debris and removal of in channel invasives; and 5) monitoring implementation and effectiveness.

### D. Oak Bay Park Sand Lance Habitat

The project is in the mainland part of Jefferson County Oak Bay Park, west of the Port Townsend Ship Canal in northwest Oak Bay. The site is comprised of a spit, salt marsh and open-water tidal lagoon, nearby eelgrass, and a documented sand lance spawning beach. Immediately south is Little Goose Ck., a coho salmon and resident cutthroat stream. This critical nearshore habitat is impacted by an armored rock revetment and derelict boat ramp. As this is the only refugia for out-migrating salmon before traversing the armored ship canal into Port Townsend Bay, removal of the rock revetment and boat ramp will benefit salmon by improving nearshore habitat conditions for out-migrating salmon and salmon prey.

The goal of the Oak Bay Park Sand Lance Spawning Habitat Restoration Project is to restore documented sand lance spawning habitat and improve nearshore marine habitat for salmon and salmon prey by removing the armoring and boat ramp. Potential restoration feasibility was conducted for Oak Bay Park in 2007 and detailed restoration feasibility and conceptual design was conducted this spring. SRFB support for Phase 1 (*Design & Permitting*) will complete final beach restoration and possible inlet relocation design, biological assessments, project permitting and pre-implementation planning. Phase 2 (*Implementation*) will rehabilitate sand lance habitat; restore marine riparian vegetation; and restore drift cell function to 1,110 lineal feet of nearshore habitat. This request is for Phase 1.

#### E. Tarboo-Dabob Bay Acquisition/Restoration

Tarboo-Dabob Bay is identified as one of the largest and least impacted salt marsh complexes remaining in the Straits and Hood Canal region, provides important juvenile rearing habitat for summer chum and Chinook salmon, and is a high priority (Domain 2) in the HCCC Restoration Strategy and 3-Year plan. After several years of scientific assessment and public discussion, DNR recently approved expansion of the Dabob Bay Natural Area to provide long-term, comprehensive protection to the Bay's high quality estuarine habitats. 2000 acres of state timber land around the steep slopes of the bay will be protected and The Nature Conservancy, DNR, Jefferson County and other project partners have been working with willing landowners to secure private lands. Five shoreline lots located between the DNR Natural Area Preserve and the WDFW Lower Tarboo Creek Preserve on the west side of inner Tarboo Bay remain unprotected. This project will permanently conserve and restore two of these shoreline lots, as a Phase I project, by purchase of a conservation easement that will be conveyed to the Jefferson Land Trust. A total of 3 acres low bank waterfront, riparian forest and saltmarsh shoreline, and the lower end of a small freshwater stream will be protected, with riparian restoration occurring on one of the lots.

#### F. Donovan Creek Acquisition and Restoration

The overarching goals of this project are to permanently protect, through conservation easement and fee simple acquisition, and restore an entire functional coastal wetland ecosystem totaling **76 acres**, including **49 acres of declining tidal estuarine and freshwater wetlands** and approximately 21 additional acres of hydric soils. This includes existing ground-truthed freshwater emergent and shrub/forested wetlands that will be restored wetlands and riparian forests. Further, 6 acres of limited restored upland buffer lands formerly agricultural.

Restoration actions will include re-meandering approximately 3,300 feet of the channelized portion of Donovan Creek, adding large woody debris for habitat value (approximately 120 pieces) and replanting approximately 15 acres of riparian corridor along the newly meandered channel. A secondary goal is to contribute to and expand on the estuarine conservation efforts and freshwater/marine habitat connections already accomplished in Quilcene Bay, a priority site within Hood Canal for federally-threatened summer chum and Chinook salmon and steelhead trout and numerous other species of fish and wildlife.

#### G. Mid-HC Dosewallips Duckabush Acquisition

Jefferson Land Trust is applying for SRFB funds for permanent protection and restoration potential of Tier I, Priority I, Domain I salmonid habitat in the Mid Hood Canal region on the Dosewallips and Duckabush Rivers. These rivers contain some of the most diverse habitat and important salmon habitat in the mid Hood Canal Chinook ESU and Summer Chum ESU. The target reaches are all used by Hood Canal summer chum salmon, Puget Sound Steelhead, Puget Sound Chinook, fall chum, pink, coho salmon, cutthroat and as spawning, rearing and feeding habitat.

The Duckabush protection efforts include protection of forested steep slope riparian habitat and riparian floodplain and wetland habitat. This includes two properties located in the lower reaches of the Duckabush River from river mile 2 to the mouth. This portion of the Duckabush River is critical for all salmonids for spawning, rearing and feeding habitat. Jefferson Land Trust will secure land and conservation easements in order to permanently protect important habitat and make future restoration efforts possible.

The Dosewallips target area continues efforts by Jefferson Land Trust and Jefferson County to protect intact habitat in the “Power Line Reach” located at about river mile 1.5. This project aims to permanently protect floodplain and side channel reaches through conservation easement acquisition of an area adjacent to 75 acres acquired by Jefferson County in 2005 with SRFB funds.

#### H. Hama Hama ELJ and Off-Channel Restoration

The site has been identified with significant ecological impairment where restoration is most likely to be effective, and where access and protection can be secured. This phase was necessary to assess the site and define the restoration strategy.

Two (2) actions directly address the cause of river estuary degradation and are the best available alternatives to accomplish the restoration goal:

1. Despite frequent and long standing negotiations with the landowner we have been unable to secure permission to remove the dikes that channelize the last ¼ mile of the ESA bearing river. The resulting channel is swept clear of all natural LWD; meander and cover. The only alternative is to add Engineered Log Jams (ELJ) to provide habitat and cover from predators for salmon in the river channel.
2. Recent natural erosion of the south dike has resulted in a several acre shallow depression suitable for off-channel fish habitat. We have secured the rights to improve this area and add LWD and natural vegetation in order to mitigate the effects of the adjacent artificial river channel by adding several acres of fish rearing habitat at the river mouth. Therefore the HSCEG will improve access to an additional 1.8 acres of salt marsh for migrating juvenile salmonid access by increasing the channel into the restored salt marsh and adding LWD to provide cover for juvenile salmonids.

#### I. Lilliwaup Reach Assessment and Design

The status of Lilliwaup Creek’s habitat limits the spawning and rearing success of ESA-listed summer chum (threatened) and other anadromous species. Stream flow, tidal influence, estuarine connectivity, and spawning range are impaired by gravel aggradation in the 0.7 mile anadromous reach. Lack of riparian vegetation contributes to channel instability, reduces contribution of large woody debris, and reduces the amount of shade cover to cool the water and provide fish protection. Unmaintained culverts prevent access to side streams and pools. Upstream of the anadromous reach, steep stream banks may be unstable, threatening to repeat the mass wasting event that brought thousands of yards of gravel downstream into the reach in 2007. The proposed project takes the first step toward restoring and protecting the anadromous reach by creating a

*Preliminary Project Design* that identifies sites, methods, and alternatives for restoring: mainstem flows and side-stream connectivity (e.g. aggregated gravel and culvert removal); riparian and in-stream habitat (e.g. re-vegetation, install large woody debris); and the natural tidal influence. Upstream banks will also be assessed and stabilization alternatives proposed. Local residents are concerned about the creek's condition and express interest in seeing it restored. Over 16 years and several hundred thousand dollars in supplementation efforts to recover the Lilliwaup summer chum population are at risk if these issues are not addressed.

#### K. Skokomish General Investigation

This request for additional support is directed to the combined sponsorship of the Army Corps of Engineers General Investigation of the Skokomish River. Both the Skokomish Indian Tribe and Mason County have a cost-share agreement to contribute resources totaling the commitment from federal resources for an investigation that has ultimate benefits to the Puget Sound basin from its sub-basin of the Skokomish River. Due to anticipated flow regime changes from the FERC Project #460, Tacoma's Cushman Hydroelectric Project, along with certain basin innovations in ownership, technologies and restoration opportunities, such watershed benefits affect the Hood Canal drainage, a glacially-carved fjord of Puget Sound. This project helps support overall Puget Sound Partnership goals and objectives.

#### L. North Fork Skokomish Ponds Reconnection

This project involves the assessment, design, and restoration of certain habitats along with fish passage opportunities within the North Fork Skokomish River lower floodplain, located within Skokomish Farms, Inc. The assessment will support designs and enhancement / restoration activities allowing additional protection to be afforded to the ESA-listed stocks as well as other salmonid stocks of the Skokomish watershed. This proposal is expected to implement an off-channel restoration project supporting migratory aspects of varied salmon life history behaviors including rearing, over-wintering and summer refuge.

A portion of this particular project was originally submitted as a car levee removal and engineering project for an area immediately downstream. Project funds were transferred to the Army Corps of Engineers for their expanded Project Management Plan that would include the North Fork floodplain within the Corps General Investigation of the Skokomish River. This proposal differs with the necessary and immediate capture of flow data, topography, water quality and survey options for the development and implementation of grade control that can dissipate overbank flood flows and backwater channel access enhancement at the lowest portion of the ponds. Additional goal removes the car bodies from the top of the levee in order to remove hazardous materials, as well as dressing out excavated pond edge habitat. This discrete assessment and information will support the Corp GI.

#### M. Southern Hood Canal Riparian Enhancement

Riparian habitats are the most fundamental building block for protecting aquatic freshwater and marine ecosystems and the species that depend on them. Virtually all watershed assessments and species recovery plans from landscape to reach to watershed scales call for improving riparian habitat quality/quantity and reducing their increasing fragmentation.

This project is the SOUTHERN HOOD CANAL RIPARIAN ENHANCMENT PROJECT. The primary objectives are:

1. Improve the quantity and quality of riparian areas
2. Move riparian areas toward a later seral stage.

The project seeks to fund one Washington State Conservation Corps (WCC) crew for one year to implement the project scope. Additional private contractors may be hired to perform some of the tasks where necessary. The tasks of the project scope are: 1) tree planting; 2) site preparation and maintenance for planting; 3) invasive, non-native vegetation inventory and control; 4) instream and estuarine restoration such as hand placement of woody debris and removal of in channel invasives; and 5) monitoring implementation and effectiveness.

#### O. Union Estuary Johnson Farm Dike Design

**Need** - Approximately 45 acres of prime wetlands have been cut off from normal tidal action by a historic dike in the estuary of the Union River. This situation is now reversible.

**Goals** - Breach the existing dike and return the wetlands to prime salmonid habitat.

**Scope** - Follow up the work of several feasibility studies and options to develop the design and permitting so construction can start in the 2010 window.

**Outcomes** - An environmental and community driven design that makes best use of this critical piece of land.

**Community involvement** - there have been thirty-three (33) public outreach activities between 12-2005 and 02-2009 resulting in strong community support and involvement.

**Previous/Anticipated Phases** - Previously produced a consultant developed feasibility study, resulting in numerous stakeholder inputs resulting in five (5) separate conceptual plans around a central theme. This project will assess the existing conceptual plans and develop the final engineering, design and permits needed to begin construction during the 2010 window.

#### P. Knotweed Control- Union Dewatto Year 2

**Need:** Compared to native plant species, knotweed shows a **decreased ability to control erosion** despite having an extensive root system. During flood events, plant fragments are washed downstream where rhizome and stem pieces create new infestations. **Increased**

**sediment is a factor in the loss of productive salmonid habitat.** Sediment can fill in the spaces between riverbed spawning gravels and fill in pools used for rearing. It negatively affects salmonids by smothering viable eggs, decreasing their feeding success, and damaging gill filaments. Knotweed negatively affects aquatic invertebrates that compose the basis of the aquatic food chain by an alteration of the quality and timing of the leaf litter regime. This alteration changes nutrient inputs and soil composition. Invertebrates are the primary food source of juvenile fish species.

**Goals:** **The goal of this project is to identify all infestations and treat on a worksite by worksite (subbasin)** determined by funding availability.

**Scope:** Limiting factors of salmonid production include elevated stream temperature, increased silt loads, poor riparian conditions, poor floodplain conditions, and a lack of large woody debris.

**Outcomes:** Location, Control, Monitoring of Knotweed infestation, and restoration of riparian corridors.

**Community:** Huge positive potential witnessed by the demand for education and number of volunteers.

**Phases:** This is the second year of work in the proposed worksites. Best science demands a **three year control cycle.**

#### Q. Knotweed Control- Mission Tahuya Year 1

**Need:** Compared to native plant species, knotweed shows a **decreased ability to control erosion** despite having an extensive root system. During flood events, plant fragments are washed downstream where rhizome and stem pieces create new infestations. **Increased sediment is a factor in the loss of productive salmonid habitat.** Sediment can fill in the spaces between riverbed spawning gravels and fill in pools used for rearing. It negatively affects salmonids by smothering viable eggs, decreasing their feeding success, and damaging gill filaments. Knotweed negatively affects aquatic invertebrates that compose the basis of the aquatic food chain by an alteration of the quality and timing of the leaf litter regime. This alteration changes nutrient inputs and soil composition. Invertebrates are the primary food source of juvenile fish species.

**Goals:** **The goal of this project is to identify all infestations and treat on a worksite by worksite (subbasin)** determined by funding availability.

**Scope:** Limiting factors of salmonid production include elevated stream temperature, increased silt loads, poor riparian conditions, poor floodplain conditions, and a lack of large woody debris.

**Outcomes:** Location, Control, Monitoring of Knotweed infestation, and restoration of riparian corridors.

**Community:** Huge positive potential witnessed by the demand for education and number of volunteers.

**Phases:** Little previous work in the proposed worksites. Best science demands a **three year control cycle**.

#### R. Seabeck Creek Culvert Design

The project consists of prioritizing the replacement of a series of eight culverts located along Seabeck Creek, Kitsap County, WA. These culverts not only fully or partially block fish passage, but also are the single largest geomorphic constraint to floodplain and channel function in the system. These geomorphic constraints limit the ability of the stream to access its floodplain, confine flood waters in the main channel forcing bed scour and severe incision, and limit wood movement. Without restoring these road crossings, there will always be limited success in restoring this watershed.

Seabeck Creek is an Intensively Monitored Watershed (IMW), managed by the State Departments of Fish and Wildlife and Ecology to evaluate efforts to restore the creek's habitat value for fish and improve freshwater productivity. The creek contains a high level of natural ecological function and structure, but lacks large woody material and associated pools, and has road networks crossing the system at about 30 locations in the 5 square mile watershed. The shortage of pools is significant because of the extremely low flows that occur during summer that limit the availability of rearing habitat for juvenile salmon. The watershed and the stream bed are gravelly, rainfall is about 52 inches per year, and the 100 year peak flow is on the order of 424 cfs. A major storm during December 2007 flowed at about 800 cfs, transported a tremendous load of stream gravel into the lower portions of the stream channel, and damaged and overtopped several of the existing culverts.

Eight of these creek crossings have been identified by WDFW as needing replacement to restore fish passage and geomorphic conditions. Engineering design is required to establish current conditions, optimal design alternatives and implementation costs. This information will allow a more full assessment of the costs and benefits of proceeding with restoration of this IMW treatment watershed.

#### S. Lower Big Beef Creek Design

Big Beef Creek is one of three watersheds which had subpopulations of summer chum salmon extirpated but recently reintroduced as a cornerstone strategy to recovering this federally-listed ESA species in Hood Canal and the Eastern Strait of Juan de Fuca. Habitat capacity in lower Big Beef Creek where summer chum salmon spawn, incubate, and rear is relatively poor given the stream straightening and simplification that occurred in 1969 and the removal of persistent woody debris. In addition, an access road on a raised foundation to a series of wells providing water for the University of Washington's Fish Research Facility has not allowed the stream to

passively recover from channel simplification, except when extreme flood events allow overtopping into a significant floodplain complex and 10+ acre wetland.

This proposed design project will seek to actively restore properly functioning floodplain and channel conditions within the lower 1 mile of Big Beef Creek. Within the constraints provided by the need to maintain the waterline and the UW capital facilities, we will design a large scale restoration project to minimize the road prism, reconnect several side channels and wetlands, and install as many as 30 log jam structures. A revegetation plan will be developed to be included in the future construction proposal, if needed.

Additionally, this project implements a corrective action in a treatment watershed of the Hood Canal IMW program, partnering with WA Ecology and Fish & Wildlife to implement validation monitoring.

#### T. Big Beef Creek Conservation

Great Peninsula Conservancy plans to purchase fee title to a 10-acre wooded parcel in the Big Beef Creek Watershed, which encompasses approximately 330 ft. along both sides of the mainstem of Big Beef Creek, and approximately 100 ft. of a small, unnamed tributary. The land includes healthy riparian woodlands, mature coniferous forest that encompasses steep, sloping topography. Some adjacent land is in public ownership for resource protection. As one of the few remaining private parcels on lower Big Beef Creek, conservation of this property is invaluable in protecting fish and wildlife habitat from degradation or conversion. Conservation would increase the riparian buffer, reducing pressure from development to maintain forest cover and recruitment of large woody debris important to enhancing channel complexity. Added protection would preserve spawning habitat for coho, fall and threatened summer chum as well as steelhead, which exists due to the presence of a gravel substrate and large woody debris in the streambed. The loss of riparian habitat is a limiting factor to salmon habitat recovery in the watershed and greater Hood Canal. Once extirpated in the 1990s, subsequent re-introduction of summer chum on the creek has been successful. Small to medium-sized pools on the site provide habitat for the variety of anadromous fish species that use the creek. The conservation-minded landowners signed a letter of intent with Great Peninsula Conservancy in fall 2008. The project will be completed in 2010 if funding is available.